

APPENDIX C
SITE INSPECTION REPORTS

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SLDS
5-YEAR REVIEW SITE INSPECTION CHECKLIST

I. Site Information

Site Name: St. Louis Downtown Site	Date of Inspection: May 8 - 9, 2003
Site Location: City of St. Louis	EPA ID:
EPA Region: Region 7	Weather/temp: Rainy / 65°
Agency leading the five-year review: U. S. Army Corps of Engineers, St. Louis District	Attachments: <input checked="" type="checkbox"/> Inspection team: J. Mattingly (USACE), D. Wall (USEPA), J. Wade (MDNR) <input checked="" type="checkbox"/> Site map (attached)
Response Action Includes: <input checked="" type="checkbox"/> Excavation of radiologically contaminated soil and shipment to an out-of-state disposal facility <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Groundwater monitoring <input checked="" type="checkbox"/> Other (Air monitoring)	

II. Interviews

Interview sheets for each individual will be maintained.
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III. On-Site Documents & Records Verified (Check all that apply.)

1. O&M Documents			
O&M Manual	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
As-built drawings	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
2. Site-Specific Health & Safety Plan			
Site-Specific Health & Safety Plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
3. O&M and OSHA Training Records			
O&M Training Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA at present
OSHA Training Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
4. Permits and Service Agreements			
Air discharge monitoring	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Effluent discharge (MSD)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Waste disposal	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
NPDES permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Other (see remarks)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks Other permits maintained on-site included the St. Louis City Street Closure Permit for Angelrodt & Buchanan), and Right-of-Entry permits with permits between the USACE and local property owners.			
5. Groundwater Monitoring			

Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: See Annual Environmental Monitoring and Data Analysis Report.			
6. Discharge Compliance Records			
Air	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: See Annual Environmental Monitoring and Data Analysis Report.			
7. Access / Security			
Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
8. Institutional Controls			
Long-term Stewardship Plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Notification letters to city, county, state, utilities, property owners regarding radiological contamination and measures to protect human health/environment	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Deed restrictions in place	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Remarks:			

IV. O&M Costs ☒ NA at present

1.O&M Organization			
<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State	<input type="checkbox"/> PRP in-house	
<input type="checkbox"/> Contractor for PRP	<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility	
<input type="checkbox"/> Other (explain)			
2.O&M Cost Records			
<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> Funding mechanism/agreement in place	
Original O&M cost estimate _____		<input type="checkbox"/> Breakdown attached	
Total annual cost by year for review period if available:			
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
3. Unanticipated or Unusually High O&M Costs During Review Period (Describe costs and reasons):			
Remarks:			

V. Access & Institutional Controls

1. Fencing			
Fencing condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Gate/lock condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Rad Rope, Signs and other Security measures			<input type="checkbox"/> Location shown on map
Remarks:			

Signs present for active excavations only. No contact sign present but does MI monitors the area and has contact information in case of emergency.			
2. Institutional Controls (ICs)		<input checked="" type="checkbox"/> NA at present	
Implementation and enforcement			
Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Type of monitoring (e.g. self-reporting, drive by):			
Frequency:			
Responsible agency:			
Contact Info (Name, Title, Date, Phone #):			
Reporting is up-to-date	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Specific requirements in deed or decision documents met	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Remarks:			
3. Adequacy		<input checked="" type="checkbox"/> NA at present	
Adequacy	<input type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input type="checkbox"/> NA
Remarks:			
4. General		<input checked="" type="checkbox"/> NA at present	
Land use changes on-site	<input type="checkbox"/> Evident	Type:	<input type="checkbox"/> NA
Land use changes off-site	<input type="checkbox"/> Evident	Type:	<input type="checkbox"/> NA
Vandalism/trespassing	<input type="checkbox"/> Evident	Type:	<input type="checkbox"/> NA
Remarks:			

VI. General Site Conditions

1. Road Damage		<input checked="" type="checkbox"/> Not relevant	<input type="checkbox"/> Evident & shown on-site map
Remarks:			
2. Erosion		<input checked="" type="checkbox"/> Not relevant	<input type="checkbox"/> Evident & shown on-site map
Depth:		Areal extent:	
Remarks:			
3. Vegetative Cover (where response action complete and/or action not yet conducted)			
<input checked="" type="checkbox"/> Cover properly established		Type:	
<input type="checkbox"/> Cover shows signs of stress			
<input type="checkbox"/> No cover			
Remarks:			
Applicable along Mississippi Riverfront only.			
4. Alternative Cover (armored rock, concrete, etc.)		<input type="checkbox"/> NA	
Remarks:			
Well established everywhere.			
5. Wet Areas/Water Damage			
<input checked="" type="checkbox"/> Not evident			
<input type="checkbox"/> Wet areas/water damage evident and shown on map		Areal extent:	
<input type="checkbox"/> Ponding evident and shown on map		Areal extent:	

	<input type="checkbox"/> Seeps evident and shown on map <input type="checkbox"/> Soft subgrade evident and shown on map	Areal extent:	
Remarks:			
6. Slope Instability			
	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Slides evident and location shown on map	Areal extent	
Remarks:			
7. Dust Suppression			<input type="checkbox"/> NA
<input checked="" type="checkbox"/> Procedures established Methods Utilized: (Water spraying) <input type="checkbox"/> Procedures established, additional needed <input type="checkbox"/> Needed			
Remarks:			
8. Air Monitoring			
<input type="checkbox"/> NA			
<input checked="" type="checkbox"/> Site perimeter air monitors in place and locations identified on-site map <input type="checkbox"/> Excavation perimeter air monitors in place and locations identified on-site map <input checked="" type="checkbox"/> Air monitors functioning <input type="checkbox"/> Air monitors require maintenance <input type="checkbox"/> Air monitors require replacement properly			
Remarks:			
9. Rail Car Shipping			<input type="checkbox"/> NA
Shipping:	Manifests accurate and complete	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Packaging:	Burrito bags properly secured and tied	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Cars loaded properly to prevent holes in the burrito bags	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Labeling:	All containers, barrels, equipment labeled correctly	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Placards:	Railcars properly placarded	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Placards secured properly to railcars	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Remarks:			
No railcars were being loaded at present due to construction of northern rail load out area.			

VIII. Surface Water Collection & Treatment (During Response Action Only)

1. Storm water / Erosion Control devices			<input type="checkbox"/> NA
<input checked="" type="checkbox"/> Silt fencing	<input type="checkbox"/> Straw bales	<input checked="" type="checkbox"/> Berms	<input type="checkbox"/> Ditches
Remarks:			
2. Water Management Interfaces			<input type="checkbox"/> NA
Interfaces between areas addressed and excavations protected against cross contamination ?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Contaminated water from excavation areas detained and sampled prior to discharge?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:			
3. Water Treatment System			
<input type="checkbox"/> Metals removal	<input type="checkbox"/> Oil/water separation	<input type="checkbox"/> Bioremediation	
<input type="checkbox"/> Air stripping	<input type="checkbox"/> Carbon adsorbers		
<input checked="" type="checkbox"/> Filters:			
Carbon filters – 2 carbon; 1 gravel			
<input type="checkbox"/> Additive:			

<input type="checkbox"/> Others <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input checked="" type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input checked="" type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: _____ <input checked="" type="checkbox"/> Quantity of surface water treated annually: 1 million gallons per year treated			
Remarks:			
4. Tanks, Vaults, Storage Vessels <input checked="" type="checkbox"/> NA at present			
<input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance			
Remarks:			
5. Surface Water Collection Structures, Pumps, Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> NA at present			
Collection Structures, Pumps, & Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance			
Remarks:			
6. Surface Water Collection Spare Parts & Equipment			
<input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided			
Remarks:			
7. Sedimentation Basin <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> NA			
<input type="checkbox"/> Liner in good condition <input type="checkbox"/> Needs maintenance			
<input type="checkbox"/> Outlet rock in good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> NA			
<input type="checkbox"/> Erosion not evident <input type="checkbox"/> Erosion evident and located on-site map			
Remarks:			
8. Outfalls <input type="checkbox"/> Functioning <input checked="" type="checkbox"/> NA			
<input type="checkbox"/> Sampled after rail event/unplanned release <input type="checkbox"/> Erosion evident			
Remarks:			
9. Outlet Works (Manholes) <input checked="" type="checkbox"/> Functioning <input type="checkbox"/> NA			
Remarks:			
10. Perimeter Ditches / Off-site Discharge <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> NA (see remarks)			
Siltation	<input type="checkbox"/> Not evident		
	<input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Vegetative Growth	<input type="checkbox"/> Present but does not impede flow		
	<input type="checkbox"/> Impedes flow and location shown on site map	Areal extent	Depth
Erosion	<input type="checkbox"/> Not evident		
	<input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Remarks: The SLDS is an industrial site with significant asphalt / concrete cover. Siltation, vegetative growth and erosion do not pose a problem for this site.			

IX. Ground-water Monitoring

1. Groundwater Monitoring Wells <input type="checkbox"/> Applicable <input type="checkbox"/> NA			
<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetrations <input type="checkbox"/> Needs maintenance			

Remarks: Condition presumed good. Wells and spare equipment maintained by separate contractor off-site.
2. Monitoring Well Spare Parts and Equipment
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks: Unknown – SAIC maintains but was not available the day of the inspection.

X. Other Remedies

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. Overall Observations

1. Implementation of the Remedy
Describe issues and observations relating to response action. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltrations and gas emission, etc.).
<p>The approved remedy for the St. Louis Downtown Site will result in the excavation and out-of-state disposal of radioactively contaminated soil from the Manhattan Project in St. Louis, Missouri. The excavation of impacted soil must occur in and around operating facilities while minimizing disruption to ongoing business operations. Most of the contamination is present under areas covered with asphalt or concrete although some contamination is present in and around buildings or old process structures. Unmarked utilities predating utilities maps, and historical fill materials act as conduits for contamination to migrate to deeper zones than originally anticipated. These features complicate the task of identifying all impacted areas prior to the actual excavation of the site. The project appears to be doing as well as can be expected in overcoming these issues and implementing the selected remedy.</p>

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The process for identifying, monitoring, and managing deep and inaccessible contamination is in the process of being developed and will be evaluated after it is established. A follow-up record of decision (ROD), amendment to the existing ROD, or and explanation of significant differences should be in some stage of development prior to the next five year review. This document will influence the identification of the conceptual process followed by stewardship planning of period monitoring and reporting.

3. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope if O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

Although it is doubtful that they will compromise the protectiveness of the remedy, two issues may arise in the future to challenge how the remedy is being implemented. Fairness issues will arise as it relates to innocent property owners and whether they will be made whole or left with a partial solution under the established cleanup strategy and priority system. For example, the inaccessible strategy should be made flexible enough such that an owner is not unnecessarily left with a long-term condition that would effect re-sale or reuse of the property. At a minimum, long-term assurances should be provided.

Changes to the cost and scope occur as the extent of contamination is identified in-process. Unmarked utilities predating utilities maps, and historical fill materials act as conduits for contamination to migrate to deeper zones than originally anticipated. These features complicate the task of identifying all impacted areas prior to the actual excavation of the site. Adequate contingencies need to be provided for.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Not applicable at present. Long-term monitoring not in effect yet.

SLAPS

5-YEAR REVIEW SITE INSPECTION CHECKLIST

I. I. SITE INFORMATION

Site Name: SLAPS	Date of Inspection: April 8 – 10, 2003
Site Location: Hazelwood / Berkeley, Missouri	EPA ID:
EPA Region: Region 7	Weather/temp: Sunny 40°
Agency leading the five-year review: U. S. Army Corps of Engineers	Attachments: <input checked="" type="checkbox"/> Inspection team roster: J. Mattingly (USACE), D. Wall (USEPA), J. Groboski (MDNR) <input checked="" type="checkbox"/> Site map (attached)
Response Action Includes: <input checked="" type="checkbox"/> Excavation of radiologically contaminated soil and shipment to an out-of-state disposal facility <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Groundwater monitoring <input checked="" type="checkbox"/> Other (Air monitoring & Vegetative Cover)	

II. Interviews

Interview sheets for each individual will be maintained.
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III. On-Site Documents & Records Verified (Check all that apply.)

1. O&M Documents			
O&M Manual	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
As-built drawings	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
2. Site-Specific Health & Safety Plan			
Site-Specific Health & Safety Plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
3. O&M and OSHA Training Records			
O&M Training Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
OSHA Training Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: Training tracked in database and contractor keeps documents in database. Database is audited regularly.			
4. Permits and Service Agreements			
Air discharge permit	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Effluent discharge (MSD)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Waste disposal	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
NPDES permit (or ARAR equivalent)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Other (see remarks)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: Special use permit from St. Louis Count Dept. of Highways and FAA permits available on-site.			

5. Groundwater Monitoring			
Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			

6. Discharge Compliance Records			
Air	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
7. Access / Security			
Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
8. Institutional Controls			
Long-term Stewardship Plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Notification letters to city, county, state, utilities, property owners regarding radiological contamination and measures to protect human health/environment	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Deed restrictions in place	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Remarks:			

IV. O&M Costs

☒ NA at present

1. O&M Organization			
<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State	<input type="checkbox"/> PRP in-house	
<input type="checkbox"/> Contractor for PRP	<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility	
<input type="checkbox"/> Other (explain)			
2. O&M Cost Records			
<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> Funding mechanism/agreement in place	
Original O&M cost estimate _____		<input type="checkbox"/> Breakdown attached	
Total annual cost by year for review period if available:			
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From _____	To _____	_____	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
3. Unanticipated or Unusually High O&M Costs During Review Period (Describe costs and reasons):			
Remarks:			

V. Access & Institutional Controls

1. Fencing			
Fencing condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Gate/lock condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Rad Rope, Signs and other Security measures			<input type="checkbox"/> Location shown on map
Remarks: Contact information available on signs posted for site.			
2. Institutional Controls (ICs)			<input checked="" type="checkbox"/> NA at present
Implementation and enforcement			
Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Type of monitoring (e.g. self-reporting, drive by):			
Frequency:			
Responsible agency:			
Contact Info (Name, Title, Date, Phone #):			
Reporting is up-to-date	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Specific requirements in deed or decision documents met	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Remarks:			
3. Adequacy			
Adequacy	<input type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input checked="" type="checkbox"/> NA at present
Remarks:			
4. General			
Land use changes on-site	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Land use changes off-site	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Vandalism/trespassing	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Remarks:			

VI. General Site Conditions

1. Road Damage			
<input checked="" type="checkbox"/> Not evident	<input type="checkbox"/> Evident & shown on-site map		
Remarks:			
2. Erosion			
<input checked="" type="checkbox"/> Not evident	<input type="checkbox"/> Evident & shown on-site map	Depth:	Areal extent:
Remarks:			
3. Vegetative Cover (where response action complete and/or action not yet conducted)			
<input checked="" type="checkbox"/> Cover properly established	Type:		
<input type="checkbox"/> Cover shows signs of stress			
<input type="checkbox"/> No cover			
Remarks:			

4. Alternative Cover (armored rock, concrete, etc.)		NA	
Remarks: Properly established.			
5. Wet Areas/Water Damage			
	<input type="checkbox"/> Not evident <input type="checkbox"/> Wet areas/water damage evident and shown on map <input type="checkbox"/> Ponding evident and shown on map <input type="checkbox"/> Seeps evident and shown on map <input type="checkbox"/> Soft subgrade evident and shown on map	Areal extent: Areal extent: Areal extent: Areal extent:	
Remarks: Ponded water present in SU27, which is undergoing a removal action, is being pumped to holding basins for treatment.			
6. Slope Instability			
	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Slides evident and location shown on map	Areal extent	
Remarks:			
7. Dust Suppression			
NA			
<input checked="" type="checkbox"/> Procedures established Methods Utilized: Spraying water <input type="checkbox"/> Procedures established, additional needed <input type="checkbox"/> Needed			
Remarks:			
8. Air Monitoring		NA	
<input checked="" type="checkbox"/> Site perimeter air monitors in place and locations identified on-site map <input type="checkbox"/> Excavation perimeter air monitors in place and locations identified on-site map <input checked="" type="checkbox"/> Air monitors functioning properly <input type="checkbox"/> Air monitors require maintenance <input type="checkbox"/> Air monitors require replacement			
Remarks:			
9. Rail Car Shipping		NA	
Shipping:	Manifests accurate and complete	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Packaging:	Burrito bags properly secured and tied	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Cars loaded properly to prevent holes in the burrito bags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Labeling:	All containers, barrels, equipment labeled correctly	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Placards:	Railcars properly placarded	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Placards secured properly to railcars	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Remarks:			

VIII. Surface Water Collection & Treatment (During Response Action Only)

1. Storm water/Erosion Control devices		NA	
<input checked="" type="checkbox"/> Silt fencing	<input checked="" type="checkbox"/> Straw bales	<input checked="" type="checkbox"/> Berms	<input checked="" type="checkbox"/> Ditches
Remarks:			

2. Water Management Interfaces		ف NA
Interfaces between areas addressed and excavations protected against cross contamination ?		√ Yes ف No
Contaminated water from excavation areas detained and sampled prior to discharge?		√ Yes ف No
Remarks:		
3. Water Treatment System		
ف Metals removal	ف Oil/water separation	√ Bioremediation
ف Air stripping	ف Carbon adsorbers	
√ Filters:		
Carbon Filters		
ف Additive:		
ف Others		
√ Good condition	ف Needs maintenance	
ف Sampling ports properly marked and functional		
ف Sampling/maintenance log displayed and up to date		
√ Equipment properly identified		
ف Quantity of groundwater treated annually:	NA at present	
√ Quantity of surface water treated annually:	2 million gallons per year treated	
Remarks:		
4. Tanks, Vaults, Storage Vessels		ف NA
√ Good condition	√ Proper secondary containment	ف Needs maintenance
Remarks:		
Water storage tanks and sump basins being used to hold water.		
5. Surface Water Collection Structures, Pumps, Pipelines		√ Applicable ف NA
√ Collection Structures, Pumps, & Electrical	√ Good condition	ف Needs maintenance
Remarks:		
6. Surface Water Collection Spare Parts & Equipment		
ف Readily available	ف Good condition	ف Requires upgrade ف Needs to be provided
Remarks:		
Presumed. Wells and spare equipment maintained by separate contractor off-site.		
7. Sedimentation Basin		√ Functioning ف NA
√ Liner in good condition	ف Needs maintenance	
√ Outlet rock in good condition	ف Needs maintenance	ف NA
√ Erosion not evident	ف Erosion evident and located on-site map	
Remarks:		
8. Outfalls		√ Functioning ف NA
	√ Sampled after rail event/unplanned release	ف Erosion evident
Remarks:		
9. Outlet Works		ف Functioning √ NA
Remarks:		

10. Perimeter Ditches / Off-site Discharge		Applicable	NA
Siltation	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Vegetative Growth	<input checked="" type="checkbox"/> Present but does not impede flow <input type="checkbox"/> Impedes flow and location shown on site map	Areal extent	Depth
Erosion	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Remarks:			

IX. Ground-water Monitoring

1. Groundwater Monitoring Wells		Applicable	NA
<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	
<input checked="" type="checkbox"/> Good condition	<input type="checkbox"/> Evidence of leakage at penetrations	<input type="checkbox"/> Needs maintenance	
Remarks:			
2. Monitoring Well Spare Parts and Equipment			
<input type="checkbox"/> Readily available	<input type="checkbox"/> Good condition	<input type="checkbox"/> Requires upgrade	<input type="checkbox"/> Needs to be provided
Remarks:			
Presumed. Wells and spare equipment maintained by separate contractor off-site.			

X. Other Remedies

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. Overall Observations

1. Implementation of the Remedy
Describe issues and observations relating to response action. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plum, minimize infiltrations and gas emission, etc.).
Excavation of radiologically contaminated soil and material from the site is being accomplished. Water management is the site's biggest problem. The USACE seems to be managing the water rather than being managed by it.
2. Adequacy of O&M
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
Not applicable at present.

3. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.
--

<p>Selenium is the one unexpected issue that came up. It affected water treatment and storage but the team seems to have an answer with bioremediation. Cold temperatures hinder its effectiveness. Schedules must take this into account. Addressing the selenium and being limited by the ambient temperature may draw out completion of the response action at the site.</p>

4. Opportunities for Optimization
--

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
--

<p>The USACE should be very cautious of public perceptions about the work being performed at the site. <u>No</u> fugitive dust should be tolerated, whether from contaminated or uncontaminated sources.</p>
--

SLAPS VP'S 5-YEAR REVIEW SITE INSPECTION CHECKLIST

I. Site Information

Site Name: SLAPS VPs	Date of Inspection: April 8 – 10, 2003
Site Location: Berkeley / Hazelwood, Missouri	EPA ID:
EPA Region: Region 7	Weather/temp: Cloudy 40°
Agency leading the five-year review: U. S. Army Corps of Engineers	Attachments: <input checked="" type="checkbox"/> Inspection team roster: J. Mattingly (USACE), D. Wall (USEPA), J. Groboski (MDNR) <input checked="" type="checkbox"/> Site map (attached)
Response Action Includes: <input checked="" type="checkbox"/> Excavation of radiologically contaminated soil and shipment to an out-of-state disposal facility <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Groundwater monitoring <input checked="" type="checkbox"/> Other (Air monitoring & Vegetative Cover)	

II. Interviews

Interview sheets for each individual will be maintained.
--

III. On-Site Documents & Records Verified (Check all that apply.)

1. O&M Documents			
O&M Manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks: Need to certify that VPs meet final remediation goals identified in the North St. Louis County sites ROD once it is approved.			
2. Site-Specific Health & Safety Plan			
Site-Specific Health & Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks:			
3. O&M and OSHA Training Records			
O&M Training Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
OSHA Training Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks: Need contractor training records in a centrally located area.			
4. Permits and Service Agreements			
Air discharge permit	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Effluent discharge (MSD)	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Waste disposal	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
NPDES permit	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Other	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks			

5. Groundwater Monitoring			
Groundwater Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks:			
6. Discharge Compliance Records			
Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks:			
7. Access / Security			
Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Remarks:			
8. Institutional Controls			
Long-term Stewardship Plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Notification letters to city, county, state, utilities, property owners regarding radiological contamination and measures to protect human health/environment	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Deed restrictions in place	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Remarks:			

IV. O&M Costs

☒ NA at present

1.O&M Organization			
<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State	<input type="checkbox"/> PRP in-house	
<input type="checkbox"/> Contractor for PRP	<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility	
<input type="checkbox"/> Other (explain)			
2.O&M Cost Records			
<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> Funding mechanism/agreement in place	
Original O&M cost estimate _____		<input type="checkbox"/> Breakdown attached	
Total annual cost by year for review period if available:			
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
3. Unanticipated or Unusually High O&M Costs During Review Period (Describe costs and reasons):			
Remarks:			

V. Access & Institutional Controls

1. Fencing				<u>✓</u> NA
Fencing condition	<u>✓</u> Good	☐ Needs maintenance	☐ Location shown on map	
Gate/lock condition	<u>✓</u> Good	☐ Needs maintenance	☐ Location shown on map	
Rad Rope, Signs and other Security measures			☐ Location shown on map	
Remarks: Contact information available on signs posted for site.				
2. Institutional Controls (ICs)				<u>✓</u> NA at present
Implementation and enforcement				
Site conditions imply ICs not properly implemented	☐ Yes	☐ No	☐ NA	
Site conditions imply ICs not being fully enforced	☐ Yes	☐ No	☐ NA	
Type of monitoring (e.g. self-reporting, drive by):				
Frequency:				
Responsible agency:				
Contact Info (Name, Title, Date, Phone #):				
Reporting is up-to-date	☐ Yes	☐ No	☐ NA	
Reports are verified by the lead agency	☐ Yes	☐ No	☐ NA	
Specific requirements in deed or decision documents met	☐ Yes	☐ No	☐ NA	
Violations have been reported	☐ Yes	☐ No	☐ NA	
Remarks:				
3. Adequacy				
Adequacy	☐ ICs are adequate	☐ ICs are inadequate	<u>✓</u> NA at present	
Remarks:				
4. General				
Land use changes on-site	<u>✓</u> Evident	Type:	See remarks	☐ NA
Land use changes off-site	☐ Evident	Type:		<u>✓</u> NA
Vandalism/trespassing	☐ Evident	Type:		<u>✓</u> NA
Remarks: Changes noted in the landuse changing from vacant to commercial (VP-24, & 36) and vacant to recreational (VP-35).				

VI. General Site Conditions

1. Road Damage		☐ Not evident	<u>✓</u> Evident
Remarks: Ruts along roadways (see VP-37) caused by private truckers create special areas of concern to be addressed where contamination can be moved to previously unimpacted areas.			
2. Erosion	<u>✓</u> Not evident	☐ Evident	Depth: Areal extent:
Remarks:			
3. Vegetative Cover (where response action complete and/or action not yet conducted)			
<u>✓</u> Cover properly established		Type:	
☐ Cover shows signs of stress (in areas)			
☐ No cover			
Remarks:			

4. Alternative Cover (armored rock, concrete, etc.)		✓ NA at present	
Remarks:			
5. Wet Areas/Water Damage			
	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Wet areas/water damage evident and shown on map <input type="checkbox"/> Ponding evident and shown on map <input type="checkbox"/> Seeps evident and shown on map <input type="checkbox"/> Soft subgrade evident and shown on map	Areal extent: Areal extent: Areal extent: Areal extent:	
Remarks:			
6. Slope Instability			
	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Slides evident and location shown on map	Areal extent	
Remarks:			
7. Dust Suppression		✓ NA at present	
<input type="checkbox"/> Procedures established <input type="checkbox"/> Procedures established, additional needed <input type="checkbox"/> Needed Methods Utilized: Spraying water			
Remarks:			
8. Air Monitoring		✓ NA at present	
<input type="checkbox"/> Site perimeter air monitors in place and locations identified on-site map <input type="checkbox"/> Excavation perimeter air monitors in place and locations identified on-site map <input type="checkbox"/> Air monitors functioning properly <input type="checkbox"/> Air monitors require maintenance <input type="checkbox"/> Air monitors require replacement			
Remarks:			
9. Rail Car Shipping		✓ NA at present	
Shipping:	Manifests accurate and complete	✓ Yes	✓ No
Packaging:	Burrito bags properly secured and tied	✓ Yes	✓ No
	Cars loaded properly to prevent holes in the burrito bags	✓ Yes	✓ No
Labeling:	All containers, barrels, equipment labeled correctly	✓ Yes	✓ No
Placards:	Railcars properly placarded	✓ Yes	✓ No
	Placards secured properly to railcars	✓ Yes	✓ No
Remarks:			
No shipping being performed. No on-site response actions underway. However, material storage area was inspected for proper labeling and storage. No problems noted.			

VIII. Surface Water Collection & Treatment (During Response Action Only)
√ NA at present

1. Storm water/Erosion Control devices		<u>√</u> NA
<input type="checkbox"/> Silt fencing	<input type="checkbox"/> Straw bales	<input type="checkbox"/> Berms <input type="checkbox"/> Ditches
Remarks:		
2. Water Management Interfaces		<u>√</u> NA
Interfaces between areas addressed and excavations protected against cross contamination ?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Contaminated water from excavation areas detained and sampled prior to discharge?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:		
3. Water Treatment System		<u>√</u> NA at present
<input type="checkbox"/> Metals removal	<input type="checkbox"/> Oil/water separation	<input type="checkbox"/> Bioremediation
<input type="checkbox"/> Air stripping	<input type="checkbox"/> Carbon adsorbers	
<input type="checkbox"/> Filters:		
<input type="checkbox"/> Additive:		
<input type="checkbox"/> Others		
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance	
<input type="checkbox"/> Sampling ports properly marked and functional		
<input type="checkbox"/> Sampling/maintenance log displayed and up to date		
<input type="checkbox"/> Equipment properly identified		
<input type="checkbox"/> Quantity of groundwater treated annually:		
<input type="checkbox"/> Quantity of surface water treated annually:		
Remarks:		
4. Tanks, Vaults, Storage Vessels		<u>√</u> NA at present
<input type="checkbox"/> Good condition	<input type="checkbox"/> Proper secondary containment	<input type="checkbox"/> Needs maintenance
Remarks:		
5. Surface Water Collection Structures, Pumps, Pipelines		<input type="checkbox"/> Applicable <u>√</u> NA at present
<input type="checkbox"/> Collection Structures, Pumps, & Electrical	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance
Remarks:		
6. Surface Water Collection Spare Parts & Equipment		<u>√</u> NA at present
<input type="checkbox"/> Readily available	<input type="checkbox"/> Good condition	<input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided
Remarks:		
7. Sedimentation Basin		<u>√</u> NA
<input type="checkbox"/> Liner in good condition	<input type="checkbox"/> Functioning	
<input type="checkbox"/> Outlet rock in good condition	<input type="checkbox"/> Needs maintenance	
<input type="checkbox"/> Erosion not evident	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> NA
	<input type="checkbox"/> Erosion evident and located on-site map	
Remarks:		
8. Outfalls		<u>√</u> NA
<input type="checkbox"/> Functioning	<input type="checkbox"/> Sampled after rail event/unplanned release	<input type="checkbox"/> Erosion evident
Remarks:		
9. Outlet Works		<input type="checkbox"/> Functioning <u>√</u> NA
Remarks:		

10. Perimeter Ditches / Off-site Discharge		☐ Applicable	☑ NA
Siltation	☐ Not evident ☐ Evident and location shown on-site map	Areal extent	Depth
Vegetative Growth	☑ Present but does not impede flow ☐ Impedes flow and location shown on site map	Areal extent	Depth
Erosion	☑ Not evident ☐ Evident and location shown on-site map	Areal extent	Depth
Remarks:			

IX. Ground-water Monitoring

1. Groundwater Monitoring Wells		☐ Applicable	☑ NA
☐ Properly secured/locked	☐ Functioning	☐ Routinely sampled	
☐ Good condition	☐ Evidence of leakage at penetrations	☐ Needs maintenance	
Remarks:			

X. Other Remedies

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. Overall Observations

<p>1. Implementation of the Remedy</p> <p>Describe issues and observations relating to response action. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltrations and gas emission, etc.).</p> <p>Primary action required by the site at present is to ensure property owners, utility companies, and municipalities know the location of the contamination and how to request assistance. No other issues noted at the present.</p>
<p>2. Adequacy of O&M</p> <p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <p>Not applicable at present.</p>
<p>3. Early Indicators of Potential Remedy Problems</p> <p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be comprised in the future.</p> <p>VP contamination maps need updating so that cleared areas, contaminated areas and questionable areas are clearly identified. Also need to keep a close eye on ruts along roadways created by large trucks.</p>

4. Opportunities for Optimization
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Monitor traffic ruts in shoulders of roadways and monitor land development / sale of VPs. A discussion of land developments, use changes (residential, recreational, commercial or industrial) and sales should be included in annual reports on the VPs.

HISS

5-YEAR REVIEW SITE INSPECTION CHECKLIST

I. Site Information

Site Name: HISS	Date of Inspection: April 8 – 10, 2003
Site Location: Hazelwood, Missouri	EPA ID:
EPA Region: Region 7	Weather/temp: Cloudy 40°
Agency leading the five-year review: U. S. Army Corps of Engineers	Attachments: <input checked="" type="checkbox"/> Inspection team roster: J. Mattingly (USACE), D. Wall (USEPA), J. Groboski (MDNR) <input checked="" type="checkbox"/> Site map (attached)
Response Action Includes: <input checked="" type="checkbox"/> Excavation of radiologically contaminated soil and shipment to an out-of-state disposal facility <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Groundwater monitoring <input checked="" type="checkbox"/> Other (Air monitoring & Vegetative Cover)	

II. Interviews

Interview sheets for each individual will be maintained.
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III. On-Site Documents & Records Verified (Check all that apply.)

1. O&M Documents			
O&M Manual	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
As-built drawings	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
2. Site-Specific Health & Safety Plan			
Site-Specific Health & Safety Plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
3. O&M and OSHA Training Records			
O&M Training Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
OSHA Training Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: Need contractor training records in a centrally located area.			
4. Permits and Service Agreements			
Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA
Effluent discharge (MSD)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Waste disposal	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
NPDES permit	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Other (see remarks)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks: Hazardous Waste Generators Permit available on-site. Also, although no permit has been issued requiring it, air discharges are monitored and reported in the Annual Environmental Monitoring Report.			

5. Groundwater Monitoring			
Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			

6. Discharge Compliance Records			
Air	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
7. Access / Security			
Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Remarks:			
8. Institutional Controls			
Long-term Stewardship Plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Notification letters to city, county, state, utilities, property owners regarding radiological contamination and measures to protect human health/environment	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input type="checkbox"/> NA
Deed restrictions in place	<input type="checkbox"/> Readily available	<input type="checkbox"/> Update needed	<input checked="" type="checkbox"/> NA at present
Remarks:			

IV. O&M Costs

☒ NA at present

1.O&M Organization			
<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State	<input type="checkbox"/> PRP in-house	
<input type="checkbox"/> Contractor for PRP	<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility	
<input type="checkbox"/> Other (explain)			
2.O&M Cost Records			
<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> Funding mechanism/agreement in place	
Original O&M cost estimate _____		<input type="checkbox"/> Breakdown attached	
Total annual cost by year for review period if available:			
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
From _____ Date	To _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
3. Unanticipated or Unusually High O&M Costs During Review Period (Describe costs and reasons):			
Remarks:			

V. Access & Institutional Controls

1. Fencing			
Fencing condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Gate/lock condition	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Location shown on map
Rad Rope, Signs and other Security measures			<input type="checkbox"/> Location shown on map
Remarks: Contact information available on signs posted for site.			
2. Institutional Controls (ICs)			<input checked="" type="checkbox"/> NA at present
Implementation and enforcement			
Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Type of monitoring (e.g. self-reporting, drive by):			
Frequency:			
Responsible agency:			
Contact Info (Name, Title, Date, Phone #):			
Reporting is up-to-date	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Specific requirements in deed or decision documents met	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Remarks:			
3. Adequacy			
Adequacy	<input type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input checked="" type="checkbox"/> NA at present
Remarks:			
4. General			
Land use changes on-site	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Land use changes off-site	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Vandalism/trespassing	<input type="checkbox"/> Evident	Type:	<input checked="" type="checkbox"/> NA
Remarks:			

VI. General Site Conditions

1. Road Damage		<input checked="" type="checkbox"/> Not evident	<input type="checkbox"/> Evident & shown on-site map
Remarks:			
2. Erosion		<input type="checkbox"/> Not evident	<input checked="" type="checkbox"/> Evident (see remarks) Depth: Areal extent:
Remarks: Erosion noted near clean pile of soil at the back of the property where the geofabric is showing through. The area near outfall 001 seems open to erosion due to lack of vegetative cover though no erosion was evident.			
3. Vegetative Cover (where response action complete and/or action not yet conducted)			
<input type="checkbox"/> Cover properly established		Type:	
<input checked="" type="checkbox"/> Cover shows signs of stress (in areas)			
<input type="checkbox"/> No cover			
Remarks: Water ponding areas are limiting vegetative growth; however, it is noted that the present cover was not intended to be a permanent cover but rather an interim cover lasting until subsurface response actions can begin at the site.			
4. Alternative Cover (armored rock, concrete, etc.)			<input type="checkbox"/> NA
Remarks: Present and looks okay.			

5. Wet Areas/Water Damage			
	<input type="checkbox"/> Not evident <input checked="" type="checkbox"/> Wet areas/water damage evident and shown on map <input checked="" type="checkbox"/> Ponding evident and shown on map <input type="checkbox"/> Seeps evident and shown on map <input checked="" type="checkbox"/> Soft subgrade evident and shown on map	Areal extent: Areal extent: Areal extent: Areal extent:	
Remarks: Although wet areas are present, it is noted that this is a temporary surface that will be disturbed during the final remediation of the site. No corrective actions needed at this time.			
6. Slope Instability			
	<input checked="" type="checkbox"/> Not evident <input type="checkbox"/> Slides evident and location shown on map	Areal extent	
Remarks:			
7. Dust Suppression		<input checked="" type="checkbox"/> NA at present	
<input type="checkbox"/> Procedures established Methods Utilized: Spraying water <input type="checkbox"/> Procedures established, additional needed <input type="checkbox"/> Needed			
Remarks:			
8. Air Monitoring		<input type="checkbox"/> NA	
<input checked="" type="checkbox"/> Site perimeter air monitors in place and locations identified on-site map <input type="checkbox"/> Excavation perimeter air monitors in place and locations identified on-site map <input checked="" type="checkbox"/> Air monitors functioning <input type="checkbox"/> Air monitors require maintenance <input type="checkbox"/> Air monitors require replacement properly			
Remarks:			
9. Rail Car Shipping		<input type="checkbox"/> NA	
Shipping:	Manifests accurate and complete	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Packaging:	Burrito bags properly secured and tied	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Cars loaded properly to prevent holes in the burrito bags	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Labeling:	All containers, barrels, equipment labeled correctly	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Placards:	Railcars properly placarded	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Placards secured properly to railcars	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Remarks: No shipping being performed. No on-site response actions underway. However, material storage area was inspected for proper labeling and storage. No problems noted.			

VIII. Surface Water Collection & Treatment (During Response Action Only)

1. Storm water / Erosion Control devices		<input type="checkbox"/> NA	
<input checked="" type="checkbox"/> Silt fencing	<input checked="" type="checkbox"/> Straw bales	<input type="checkbox"/> Berms	<input checked="" type="checkbox"/> Ditches
Remarks:			
2. Water Management Interfaces		<input type="checkbox"/> NA	
Interfaces between areas addressed and excavations protected against cross contamination ?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Contaminated water from excavation areas detained and sampled prior to discharge?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Remarks:			

3. Water Treatment System		<u>√</u> NA at present	
<input type="checkbox"/> Metals removal	<input type="checkbox"/> Oil/water separation	<input type="checkbox"/> Bioremediation	
<input type="checkbox"/> Air stripping	<input type="checkbox"/> Carbon adsorbers		
<input type="checkbox"/> Filters:			
<input type="checkbox"/> Additive:			
<input type="checkbox"/> Others			
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance		
<input type="checkbox"/> Sampling ports properly marked and functional			
<input type="checkbox"/> Sampling/maintenance log displayed and up to date			
<input type="checkbox"/> Equipment properly identified			
<input type="checkbox"/> Quantity of groundwater treated annually:			
<input type="checkbox"/> Quantity of surface water treated annually:			
Remarks:			
4. Tanks, Vaults, Storage Vessels		<u>√</u> NA at present	
<input type="checkbox"/> Good condition	<input type="checkbox"/> Proper secondary containment	<input type="checkbox"/> Needs maintenance	
Remarks:			
5. Surface Water Collection Structures, Pumps, Pipelines		<input type="checkbox"/> Applicable	<u>√</u> NA at present
<input type="checkbox"/> Collection Structures, Pumps, & Electrical	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs maintenance	
Remarks:			
6. Surface Water Collection Spare Parts & Equipment		<u>√</u> NA at present	
<input type="checkbox"/> Readily available	<input type="checkbox"/> Good condition	<input type="checkbox"/> Requires upgrade	<input type="checkbox"/> Needs to be provided
Remarks:			
7. Sedimentation Basin		<input type="checkbox"/> Functioning	<u>√</u> NA at present
<input type="checkbox"/> Liner in good condition	<input type="checkbox"/> Needs maintenance		
<input type="checkbox"/> Outlet rock in good condition	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> NA	
<input type="checkbox"/> Erosion not evident	<input type="checkbox"/> Erosion evident and located on-site map		
Remarks:			
8. Outfalls		<u>√</u> Functioning	<input type="checkbox"/> NA
		<u>√</u> Sampled after rail event/unplanned release	<input type="checkbox"/> Erosion evident
Remarks:			
9. Outlet Works		<input type="checkbox"/> Functioning	<u>√</u> NA
Remarks:			
10. Perimeter Ditches / Off-site Discharge		<input type="checkbox"/> Applicable	<input type="checkbox"/> NA
Siltation	<input type="checkbox"/> Not evident		
	<input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Vegetative Growth	<u>√</u> Present but does not impede flow		
	<input type="checkbox"/> Impedes flow and location shown on site map	Areal extent	Depth
Erosion	<u>√</u> Not evident		
	<input type="checkbox"/> Evident and location shown on-site map	Areal extent	Depth
Remarks:			

IX. Ground-water Monitoring

1. Groundwater Monitoring	<u>√</u> Applicable	<input type="checkbox"/> NA
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Wells		
<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning	<input checked="" type="checkbox"/> Routinely sampled
<input checked="" type="checkbox"/> Good condition	<input checked="" type="checkbox"/> Evidence of leakage at penetrations	<input checked="" type="checkbox"/> Needs maintenance
Remarks:		

X. Other Remedies

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. Overall Observations

1. Implementation of the Remedy
Describe issues and observations relating to response action. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plum, minimize infiltrations and gas emission, etc.).
Site is in a maintenance mode pending selection of the final cleanup criteria. Vegetation/top soil erosion (down to the geofabric liner) is evident. Unforeseen delays regarding the selection of the final response actions have lead to the site's current state with weak vegetation in some areas and erosion down to the geofabric liner. Site drainage impedes growth of vegetation although regular seeding attempts continue. It should be noted, however, that most of the site has well establish vegetative growth.
2. Adequacy of O&M
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
Not applicable at present.
3. Early Indicators of Potential Remedy Problems
Describe issues and observations such as unexpected changes in the cost or scope if O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be comprised in the future.
Areas with thin vegetative growth leave the potential for dust to become airborne. These areas need to be addressed to avoid public concerns being raised about fugitive dust from the site.
4. Opportunities for Optimization
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
The USACE should be very cautious of public perceptions about the work being performed at the site. <u>No</u> fugitive dust should be tolerated, whether from contaminated or uncontaminated sources.